

IN THE CLAIMS:

Please cancel claims 1-39 and add new claims amend 40-78 as follows:

40. (New) A heat exchanger unit for motor vehicles, having a first heat exchanger as well as a second heat exchanger, each of these heat exchangers having two collector pipes situated at a distance from one another, and each collector pipe of the first heat exchanger being situated essentially adjacent to a collector pipe of the second heat exchanger, and in addition the other collector pipe of the first heat exchanger being situated essentially adjacent to the other collector pipe of the second heat exchanger, and in addition the two collector pipes of the first heat exchanger being connected to one another in terms of flow, and the two collector pipes of the second heat exchanger being connected to one another in terms of flow, and a cross-section or cross-sections of the covering wall of a collector pipe of the first heat exchanger having a non-circular shape, regarded perpendicular to the longitudinal axis, of this collector pipe,

the second heat exchanger being a condenser, in particular an air-conditioning condenser, and

a collector 90 being situated on a collector pipe of the second heat exchanger, and

the cross-section or cross-sections of the covering wall of at least one collector pipe of the second heat exchanger being essentially oval or (annularly) elliptical, or essentially circular in shape, regarded perpendicular to the longitudinal axis, of the relevant collector pipe; and

the front wall of the peripheral wall of at least one collector pipe of the first heat exchanger, which is the wall facing an adjacent collector pipe of another heat exchanger, being continuously convex in the cross-section regarded perpendicular to the longitudinal axis of this collector pipe.

41. (New) A heat exchanger unit for motor vehicles, having a first heat exchanger as well as a second heat exchanger, each of these heat exchangers having two collector pipes situated at a distance from one another, and each collector pipe of the first heat exchanger being situated essentially adjacent to a collector pipe of the second heat exchanger, and in addition the other collector pipe of the first heat exchanger being situated essentially adjacent to the other collector pipe of the second heat exchanger, and in addition the two collector pipes of the first heat exchanger being connected to one another in terms of flow, and the two collector pipes of the second heat exchanger being connected to one another in terms of flow, and a cross-section or cross-sections of the covering wall of a collector pipe of the first heat exchanger being non-circular in shape, regarded perpendicular to the longitudinal axis, of this collector pipe,

the second heat exchanger being a condenser, in particular an air-conditioning condenser, and

a collector being situated on a collector pipe of the second heat exchanger, and

the cross-section or cross-sections of the covering wall of at least one collector pipe of the second heat exchanger being essentially oval or (annularly) elliptical, or essentially circular in shape, regarded perpendicular to the longitudinal axis of the relevant collector pipe; and

the front wall of the peripheral wall of at least one collector pipe of the first heat exchanger, which is the wall facing an adjacent collector pipe of another heat exchanger, being

continuously concave in the cross-section regarded perpendicular to the longitudinal axis of this collector pipe.

42. (New) A heat exchanger unit for motor vehicles, having a first heat exchanger as well as a second heat exchanger, each of these heat exchangers having two collector pipes situated at a distance from one another, and each collector pipe of the first heat exchanger being situated essentially adjacent to a collector pipe of the second heat exchanger, and in addition the other collector pipe of the first heat exchanger being situated essentially adjacent to the other collector pipe of the second heat exchanger, and in addition the two collector pipes of the first heat exchanger being connected to one another in terms of flow, and the two collector pipes of the second heat exchanger being connected to one another in terms of flow, and a cross-section or cross-sections of the covering wall of a collector pipe of the first heat exchanger being non-circular in shape, regarded perpendicular to the longitudinal axis, of this collector pipe,

the second heat exchanger being a condenser, in particular an air-conditioning condenser, and

a collector being situated on a collector pipe of the second heat exchanger, and

the cross-section or cross-sections of the covering wall of at least one collector pipe of the second heat exchanger being essentially oval or (annularly) elliptical, or essentially circular in shape, regarded perpendicular to the longitudinal axis of the relevant collector pipe;

the front wall of the peripheral wall of at least one collector pipe of the first heat exchanger, which is the wall facing an adjacent collector pipe of another heat exchanger, having a convex segment and a concave segment in the cross-section regarded perpendicular to the longitudinal axis of this collector pipe.

43. (New) A heat exchanger unit for motor vehicles, having a first heat exchanger as well as a second heat exchanger, each of these heat exchangers having two collector pipes situated at a distance from one another, and each collector pipe of the first heat exchanger being situated essentially adjacent to a collector pipe of the second heat exchanger, and in addition the other collector pipe of the first heat exchanger being situated essentially adjacent to the other collector pipe of the second heat exchanger, and in addition the two collector pipes of the first heat exchanger being connected to one another in terms of flow, and the two collector pipes of the second heat exchanger being connected to one another in terms of flow, and a cross-section or cross-sections of the covering wall of a collector pipe of the first heat exchanger being non-circular in shape, regarded perpendicular to the longitudinal axis, of this collector pipe,

the second heat exchanger being a condenser, in particular an air-conditioning condenser, and

a collector being situated on a collector pipe of the second heat exchanger, and

the cross-section or cross-sections of the covering wall of at least one collector pipe of the second heat exchanger being essentially oval or (annularly) elliptical, or essentially circular in shape, regarded perpendicular to the longitudinal axis of the relevant collector pipe;

a heat exchanger block, having a plurality of pipes oriented in parallel, being provided between the collector pipes of the respective heat exchanger;

the front wall of the peripheral wall of at least one collector pipe of the first heat exchanger, which is the wall facing an adjacent collector pipe of another heat exchanger, having a flat or straight construction, regarded in the cross-section perpendicular to the longitudinal axis of this collector pipe, and running at an incline to the pipes of this first heat exchanger.

44. (New) A heat exchanger unit for motor vehicles, having a first heat exchanger as well as a second heat exchanger, each of these heat exchangers having two collector pipes situated at a distance from one another, and each collector pipe of the first heat exchanger being situated essentially adjacent to a collector pipe of the second heat exchanger, and in addition the other collector pipe of the first heat exchanger being situated essentially adjacent to the other collector pipe of the second heat exchanger, and in addition the two collector pipes of the first heat exchanger being connected to one another in terms of flow, and the two collector pipes of the second heat exchanger being connected to one another in terms of flow, and a cross-section or cross-sections of the covering wall of a collector pipe of the first heat exchanger being non-circular in shape, regarded perpendicular to the longitudinal axis, of this collector pipe,

the second heat exchanger being a condenser, in particular an air-conditioning condenser, and

a collector being situated on a collector pipe of the second heat exchanger, and

the cross-section or cross-sections of the covering wall of at least one collector pipe of the second heat exchanger being essentially oval or (annularly) elliptical, or essentially circular in shape, regarded perpendicular to the longitudinal axis, of the relevant collector pipe;

a heat exchanger block, having a plurality of pipes oriented in parallel, being provided between the collector pipes of the respective heat exchanger;

the front wall of the peripheral wall of at least one collector pipe of the first heat exchanger, which is the wall facing an adjacent collector pipe of another heat exchanger, having segments that are straight or flat in shape, regarded in the cross-section perpendicular to the longitudinal axis of this collector pipe, and which are situated at an angle to, or obliquely to, the longitudinal axis of a pipe of the first heat exchanger, enclosing with one another an angle in the range between 95° and 175°.

45. (New) A heat exchanger unit for motor vehicles, having a first heat exchanger as well as a second heat exchanger, each of these heat exchangers having two collector pipes situated at a distance from one another, and each collector pipe of the first heat exchanger being situated essentially adjacent to a collector pipe of the second heat exchanger, and in addition the other collector pipe of the first heat exchanger being situated essentially adjacent to the other collector pipe of the second heat exchanger, and in addition the two collector pipes of the first heat exchanger being connected to one another in terms of flow, and the two collector pipes of the second heat exchanger being connected to one another in terms of flow, and the cross-section or cross-sections of this covering wall of at least one collector pipe of the first heat exchanger being essentially oval or (annularly) elliptical in shape, regarded perpendicular to the longitudinal axis of the relevant collector pipe, the second heat exchanger) being a condenser, in particular an air-conditioning condenser.

46. (New) The heat exchanger unit according to Claim 45, characterized in that the cross-section or cross-sections of this covering wall of at least one collector pipe of the second heat exchanger are essentially oval or (annularly) elliptical in shape, regarded perpendicular to the longitudinal axis, of the relevant collector pipe.

47. (New) The heat exchanger unit of claim 40, wherein a cross-section or cross-sections of the covering wall of at least one collector pipe of the first and/or second heat exchanger, regarded perpendicular to the longitudinal axis of the relevant collector pipe, are constructed in such a way that overlapping wall segments are present.

48. (New) The heat exchanger unit of claim 40, wherein the heat exchanger unit has at least one heat exchanger that is a radiator and that has two collector pipes at a distance from one another, these two collector pipes of this heat exchanger being connected to one another in terms of flow, and in addition the covering wall of one or both of



these collector pipes being non-circular in shape, regarded in the cross-section or cross-sections perpendicular to the longitudinal axis of the relevant pipe, and the wall, facing the other collector pipe of this heat exchanger, of the covering wall of this collector pipe being a floor wall, and the floor wall of one or both of these collector pipes having a segment that is curved in the named cross-section or cross-sections, or is essentially completely curved.

49. (New) The heat exchanger unit of claim 40, wherein the first heat exchanger is a radiator, or has at least one radiator, and the second heat exchanger is an air-conditioner condenser.

50. (New) The heat exchanger unit of claim 40, wherein at least one collector pipe of the first heat exchanger is limited by a wall (the floor wall) that is situated on the side facing the other collector pipe of this first heat exchanger, and by a wall (the outer wall) that is situated on the side facing away from the other collector pipe of this first heat exchanger, and by a wall (the front wall) that faces the adjacent collector pipe of the second heat exchanger, as well as by a wall (the rear wall) that faces away from the adjacent collector pipe of the second heat exchanger, it being provided in particular that the direction of longitudinal extension of these walls corresponds essentially to the direction of longitudinal extension of this collector pipe of the first heat exchanger.

51. (New) The heat exchanger unit of claim 40, wherein at least one wall segment or a wall of the covering wall of a collector pipe of the first heat exchanger is concavely curved, regarded in a cross-section or in all cross-sections that is/are situated perpendicular to the longitudinal axis of this collector pipe.

52. (New) The heat exchanger unit of claim 40, wherein at least one wall or a wall segment of the covering wall of a collector pipe of the first heat exchanger is

convexly curved, regarded in the cross-section or cross-sections perpendicular to the longitudinal axis of this collector pipe.

53. (New) The heat exchanger unit according to Claim 52, characterized in that this convexly curved wall segment and/or this convexly curved wall is curved in such a way that various radii of curvature ( $R$ ) are present in this wall segment or in this wall.

54. (New) The heat exchanger unit according to Claim 52, characterized in that this convexly curved wall segment or this convexly curved wall is curved in such a way that the (segment) length ( $s_{\text{total}}$ ) of this convexly curved wall or of this convexly curved wall segment is less than  $(0.5 \cdot x \cdot \pi)$  times the radius of curvature ( $R$ ) of this wall segment or of this wall,  $x$  being greater than zero and less than 0.8.

55. (New) The heat exchanger unit according to Claim 52, characterized in that this convexly curved wall segment or this convexly curved wall is curved in such a way that along the (segment) length ( $s_{\text{total}}$ ) of this convexly curved wall, or of this convexly curved wall segment, various radii of curvature ( $R$ ) are provided, the (segment) length ( $s_{\text{total}}$ ) being less than  $(0.5 \cdot x \cdot \pi)$  times the minimum radius of curvature ( $R_{\text{minimum}}$ ) of these radii of curvature ( $R$ ), and  $x$  being greater than zero and less than 0.8.

56. (New) The heat exchanger unit according to Claim 52, characterized in that this convexly curved wall segment, or this convexly curved wall, is curved in such a way that along the (segment) length ( $s_{\text{total}}$ ) of this convexly curved wall, or of this convexly curved wall segment, various radii of curvature are provided, the (segment) length ( $s_{\text{total}}$ ) being less than  $(0.5 \cdot x \cdot \pi)$  times the mean radius of curvature ( $R_{\text{mean}}$ ) of this wall segment or of this wall,  $x$  being greater than zero and less than 0.8, and the mean radius of curvature ( $R_{\text{mean}}$ ) corresponding to the quotient of an integral and the (segment) length ( $s_{\text{total}}$ ),



this integral being the integral of  $(s \cdot R(s))ds$  within the limits  $s=0$  and  $s=s_{\text{total}}$ ,  $s$  being the path running along the curved wall segment, or along the convexly curved wall, and  $R(s)$  being the radius of curvature at a particular position along this path.

57. (New) The heat exchanger unit according to Claim 52, characterized in that the front wall and/or the floor wall has such a curved wall segment, or is such a curved wall segment.

58. (New) The heat exchanger unit according to Claim 57, characterized in that the rear wall and the outer wall each have a flat construction, or, in the cross-section perpendicular to the longitudinal axis of the collector pipe, an essentially straight construction, and are oriented essentially perpendicular to one another, it being provided in particular that the rear wall is oriented essentially parallel to (coolant) pipes that produce a flow connection between two collector pipes of the first heat exchanger.

59. (New) The heat exchanger unit according to claim 40, characterized in that the covering wall of a collector pipe of the first heat exchanger has adjacent wall segments that are essentially flat or straight and that enclose with one another an angle between  $95^\circ$  and  $175^\circ$ , preferably in the range from  $100^\circ$  to  $170^\circ$ , regarded in the cross-section perpendicular to the longitudinal axis of the collector pipe of the first heat exchanger.

60. (New) The heat exchanger unit according to claim 41, characterized in that the collector pipes and the connection in terms of flow of the collector pipes, and/or the entire heat exchanger unit, are made of aluminum.

61. (New) A heat exchanger unit for motor vehicles, having a first heat exchanger as well as a second heat exchanger, each of these heat exchangers having two

collector pipes situated at a distance from one another, and each collector pipe of the first heat exchanger being situated essentially adjacent to a collector pipe of the second heat exchanger, and in addition the other collector pipe of the first heat exchanger being situated essentially adjacent to the other collector pipe of the second heat exchanger, and in addition the two collector pipes of the first heat exchanger being connected to one another in terms of flow, and the two collector pipes of the second heat exchanger being connected to one another in terms of flow, and a cross-section or cross-sections of the covering wall of a collector pipe of the first heat exchanger being non-circular in shape, regarded perpendicular to the longitudinal axis of this collector pipe.

62. (New) A heat exchanger unit for motor vehicles, having a first heat exchanger as well as a second heat exchanger, each of these heat exchangers having two collector pipes situated at a distance from one another, and each collector pipe of the first heat exchanger being situated essentially adjacent to a collector pipe of the second heat exchanger, and in addition the other collector pipe of the first heat exchanger being situated essentially adjacent to the other collector pipe of the second heat exchanger, and in addition the two collector pipes of the first heat exchanger being connected to one another in terms of flow, and the two collector pipes of the second heat exchanger being connected to one another in terms of flow, and the cross-section or cross-sections of this covering wall of at least one collector pipe of the first heat exchanger and/or second heat exchanger being essentially oval or (annularly) elliptical in shape, regarded perpendicular to the longitudinal axis, of the relevant collector pipe.

63. (New) A heat exchanger unit for motor vehicles, having a first heat exchanger as well as a second heat exchanger, each of these heat exchangers having two collector pipes situated at a distance from one another, and each collector pipe of the first heat exchanger being situated essentially adjacent to a collector pipe of the second heat exchanger, and in addition the other collector pipe of the first heat exchanger being situated

essentially adjacent to the other collector pipe of the second heat exchanger, and in addition the two collector pipes of the first heat exchanger being connected to one another in terms of flow, and the two collector pipes of the second heat exchanger being connected to one another in terms of flow, and a cross-section or cross-sections of the covering wall of at least one collector pipe of the first heat exchanger or the second heat exchanger, regarded perpendicular to the longitudinal axis, of the relevant collector pipe, being shaped in such a way that overlapping wall segments are present.

64. (New) A heat exchanger unit for motor vehicles, having at least one heat exchanger, which is in particular a radiator, having two collector pipes situated at a distance from one another, and these two collector pipes of this heat exchanger being connected to one another in terms of flow, and in addition the covering wall of one or both of these collector pipes having a non-circular shape, in the cross-section or cross-sections of the relevant collector pipe regarded perpendicular to the longitudinal axis of this collector pipe, and the wall, facing the other collector pipe of this heat exchanger, of the covering wall of this collector pipe being a base wall, and the base wall of one or both of these collector pipes having a segment that is curved in the named cross-section or cross-sections, or is essentially completely curved.

65. (New) A heat exchanger unit according to claim 61.

66. (New) A heat exchanger unit according to claim 61, characterized in that the first heat exchanger is a radiator or has at least one radiator, and/or the second heat exchanger is an air-conditioning condenser or has at least one air-conditioning condenser.

67. (New) The heat exchanger unit according to claim 61, characterized in that at least one collector pipe of the first heat exchanger is limited by a base

wall that is situated on the side facing the other collector pipe of this first heat exchanger, and by a wall that is situated on the side facing away from the other collector pipe of this first heat exchanger, and by a wall that faces the adjacent collector pipe of the second heat exchanger, as well as by a wall that faces away from the adjacent collector pipe of the second heat exchanger, it being provided in particular that the direction of longitudinal extension of these walls corresponds essentially to the direction of longitudinal extension of this collector pipe of the first heat exchanger.

68. (New) The heat exchanger unit according to claim 61, characterized in that at least one wall segment or a wall of the covering wall of a collector pipe of the first heat exchanger is concavely curved, regarded in one or in all cross-sections that is/are situated perpendicular to the longitudinal axis of this collector pipe.

69. (New) The heat exchanger unit according to claim 61, characterized in that at least one wall or a wall segment of the covering wall of a collector pipe of the first heat exchanger is convexly curved, regarded in the cross-section or cross-sections situated perpendicular to the longitudinal axis of this collector pipe.

70. (New) The heat exchanger unit according to claim 69, characterized in that this convexly curved wall segment and/or this convexly curved wall is curved in such a way that various radii of curvature ( $R$ ) are present in this wall segment or in this wall.

71. (New) The heat exchanger unit according to claim 69, characterized in that this convexly curved wall segment or this convexly curved wall is curved in such a way that the (segment) length ( $s_{\text{total}}$ ) of this convexly curved wall or of this convexly curved wall segment is less than  $(0.5 \cdot x \cdot \pi)$  times the radius of curvature ( $R$ ) of this wall segment or of this wall,  $x$  being greater than zero and less than 0.8.

72. (New) The heat exchanger unit according to claim 69, characterized in that this convexly curved wall segment or this convexly curved wall is curved in such a way that along the (segment) length ( $s_{\text{total}}$ ) of this convexly curved wall, or of this convexly curved wall segment, various radii of curvature ( $R$ ) are present, the segment length ( $s_{\text{total}}$ ) being less than  $(0.5 \cdot x \cdot \pi)$  times the minimum radius of curvature ( $R_{\text{minimum}}$ ) of these radii of curvature ( $R$ ), and  $x$  being greater than zero and less than 0.8.

73. (New) The heat exchanger unit according to claim 69, characterized in that this convexly curved wall segment, or this convexly curved wall, is curved in such a way that along the (segment) length ( $s_{\text{total}}$ ) of this convexly curved wall, or of this convexly curved wall segment, various radii of curvature are present, the (segment) length ( $s_{\text{total}}$ ) being less than  $(0.5 \cdot x \cdot \pi)$  times the mean radius of curvature ( $R_{\text{mean}}$ ) of this wall segment or of this wall,  $x$  being greater than zero and less than 0.8, and the mean radius of curvature ( $R_{\text{mean}}$ ) corresponding to the quotient of an integral and the (segment) length ( $s_{\text{gesamt}}$ ), this integral being the integral of  $(s \cdot R(s))ds$  within the limits  $s=0$  and  $s=s_{\text{gesamt}}$ ,  $s$  being the path running along the curved wall segment, or along the convexly curved wall, and  $R(s)$  being the radius of curvature at a particular position along this path.

74. (New) The heat exchanger unit according to claim 69, characterized in that the front wall and/or the floor wall has such a curved wall segment, or is such a curved wall segment.

75. (New) The heat exchanger unit according to claim 74, characterized in that the rear wall and the outer wall each have a flat construction, or, in the cross-section perpendicular to the longitudinal axis of the collector pipe, an essentially straight construction, and are oriented essentially perpendicular to one another, it being provided in particular that the rear wall is oriented essentially parallel to (coolant) pipes that produce a flow connection between two collector pipes of the first heat exchanger.

76. (New) The heat exchanger unit according to claim 52, characterized in that the covering wall of a collector pipe of the first heat exchanger has adjacent wall segments that are essentially flat or straight and that enclose with one another an angle between  $95^{\circ}$  and  $175^{\circ}$ , preferably in the range from  $100^{\circ}$  to  $170^{\circ}$ , regarded in cross-section perpendicular to the longitudinal axis of the collector pipe of the first heat exchanger.

77. (New) The heat exchanger unit according to claim 76, characterized in that the front wall has at least two such adjacent flat or straight wall segments that enclose with one another an angle between  $95^{\circ}$  and  $175^{\circ}$ , preferably in the range from  $100^{\circ}$  to  $170^{\circ}$ , regarded in the cross-section perpendicular to the longitudinal axis of the collector pipe of the first heat exchanger .

78. (New) The heat exchanger unit according to claim 52, characterized in that the collector pipes and the connection in terms of flow of the collector pipes, and/or the entire heat exchanger unit, are made of aluminum.